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Clothing And Dressing Problems Of The Cerebral Palsied Child

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CLOTHING AND DRESSING PROBLEMS

OF THE CEREBRAL PALSID CHILD

(TITLE)

BY

MARILYNN WILKE SCHUMACHER

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

MASTERS OF SCIENCE IN HOME ECONOMICS EDUCATION

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1978

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING
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CLOTHING AND DRESSING PROBLEMS
OF THE
CEREBRAL PALSID CHILD

BY

MARILYNN WILKE SCHUMACHER

B. S. in Ed., Eastern Illinois Univeristy, 1972

ABSTRACT OF A THESIS

Submitted in partial fulfillment of the requirements
for the degree of Master of Science
in Home Economics Education at the Graduate School
of Eastern Illinois University

CHARLESTON, ILLINOIS
1978

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The study was designed to explore the clothing and dressing problems of the cerebral palsied child. In an effort to recognize their problems, a questionnaire was developed and administered to 100 parents of cerebral palsied children between the ages of 2 and 12 in the central Illinois area. Specific concerns addressed by the instrument included the fit of clothing, the dressing and undressing ability of the child, and features, fasteners, and fabrics for clothing of the cerebral palsied child. Parents indicated whether commercial patterns were used and alterations were made on clothing for their child. Finally, the need for assistance in solving clothing problems of the cerebral palsied child was investigated.

The tabulation of responses from the 52 questionnaires returned suggested that cerebral palsy did affect the fit of clothing if the child suffered a body malformation or was restricted with braces, wheelchair, or other device as a result of the handicap. The dressing and undressing problems varied from none to complete lack of ability to dress oneself. Garments which required more manipulation or fine coordination were difficult or impossible for the cerebral palsied child to put on or take off independently.

The size and location of the opening was most impor-

tant to clothing of the cerebral palsied child according to the parents surveyed. They preferred elastic and zipper closures and pull-on or pull-over garments. Cotton or polyester knitted fabrics were most practical and functional.

Commercial patterns with simple alterations were used for homesewn clothing of the cerebral palsied child. Ready-to-wear was altered at times with adjustment to the length or width of a garment.

The results pointed to a need for assistance to be made available to parents with clothing and dressing problems.

Of the children surveyed, the cerebral palsy assumed various degrees and kinds of involvement. It was associated with other handicaps such as mental retardation and speech or vision problems. Because of this complex nature, each cerebral palsied child with clothing and dressing problems would require individual assessment and consideration. The home economist serving as consultant to social agencies, extension services, rehabilitation clinics, or hospitals could provide the expertise necessary to help parents with clothing questions.

Parents need to be made aware of the importance of clothing and independent dressing on the psychological and social development of the handicapped child. Parent education classes, personal contacts and informational literature are methods the concerned professional could employ to assist

parents of handicapped children in solving the child's
clothing and dressing problems.

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CHAPTER ONE

INTRODUCTION

Origin of Study

Some individuals, because of physical disabilities, have difficulty finding and adapting garments to satisfy their clothing needs and desires. According to Horn (1968), clothing is a vital part of each person's development. It provides protection from the elements and fulfills cultural expectations while expressing one's personality and individuality. Clothing is also used to signify a particular status or occupation as it enhances the appearance (1968). However, Phipps (1977) found that clothing designers have generally overlooked the needs of the handicapped. Clothing specifically designed for a handicap is not commonly sold in retail outlets.

Results of studies about clothing, which might be helpful to the handicapped and their families, are rarely accessible or in an appropriate form for easy use and understanding (Reich, 1976). Hallenbeck, in her review of resources about clothing for the handicapped stated that:

There are many ideas and general design features available but there are few patterns or specific detailed instructions for making or modifying garments (1966, p. 39).

Alert and informed professionals in medical and social services occupations can interpret research findings and pass the information on to those who request it. The clothing designs suggested for one type of handicap might apply equally as well to other handicaps or to the clothing problems of the elderly (Phipps, 1977).

The handicapped child has multiple difficulties. Simple tasks can be discouraging and painful. To encourage the child to help himself is difficult, time-consuming and frustrating. Juanita Fleming found that whether the child suffers from congenital or genetic birth defects, infectious or degenerative processes, or amputation,

...disabled children have some difficulty in manipulating and managing their environment because of their unique problems so that the environment must be adapted to meet their special problems as much as possible (1973, p. 143).

Clothing that makes dressing as easy as possible can promote self-confidence, coordination, and satisfaction for the child. A feeling of usefulness and independence can improve the child's self-image. Moreover, if the clothing worn is fashionable, attractive, colorful, and functional, appearance will be psychologically satisfying. The handicapped child will feel less conspicuous and more comfortable around friends when they are dressed similarly to others and wear clothing designed to disguise the disability (Spock, 1965).

Parents and therapists need to teach the handicapped child to assume the task of dressing himself when young.

Cerebral palsy is a complex disability that may inflict a variety of physical limitations on one child, some or all of which cause dressing difficulties (Wagner, 1963). If encouragement and instruction is delayed, more effort will be needed to train muscles to take over the tasks that other people have performed for the child. According to Shriner, this can be critical:

...from the aspect of adult employment, and from his own sense of personal pride, dress and careful grooming are very important in the rehabilitation of a cerebral palsied child or adult (Shriner, 1961, p. 9).

Clothing that is constructed to fit the handicap, the brace or the assistive device required and which also incorporates features for durability and ease in dressing will enable the handicapped child to lead a more normal life. Information and education about clothing will help the child who must live with the disability and the parent who must encourage the child to assume care for his own needs.

Statement of Problem

Research indicates that meeting the clothing needs of the cerebral palsied child can be a problem for parents. When dexterity and movement are limited, dressing is slow or impossible. Special clothing or clothing adapted to fit or accommodate the handicap will make dressing easier. Parents experiencing the frustrations of teaching their cerebral palsied child to dress himself--or performing

the task entirely for the child--might appreciate assistance and suggestions. With this in mind, the writer attempted to determine the clothing and dressing problems shared by parents of young cerebral palsied children.

For the purposes of this study, the following questions were considered:

How does cerebral palsy affect the fit of clothing?

What are the dressing/undressing problems of the cerebral palsied child?

What are the desirable features in clothing for the cerebral palsied child?

What are the preferred fasteners in clothing for the cerebral palsied child?

What fabrics are considered to be most durable and functional for the cerebral palsied child?

Are commercial patterns used for clothing of the cerebral palsied child?

What alterations are made to ready-to-wear clothing for the cerebral palsied child?

Is there a need for assistance in solving clothing problems of the cerebral palsied child?

Definitions

Physical handicap is a condition of the body or a part of the body, which impedes mobility of that part. It may necessitate the use of a wheelchair, crutch, brace, sling or prosthesis.

Cerebral palsy is brain damage due to illness or injury before, during, or shortly after birth. It is characterized by abnormal muscle tone, lack of muscle control, uncoordination, and failure to integrate primitive reflexes.

The extent of the damage determines the severity of the disability.

Child is a male or female between the ages of two and twelve.

Adapted clothing is a garment which has been altered or constructed to fit or accomodate a handicap or the assistive device required due to the handicap.

Dressing ability is the capacity of an individual to put on or take off clothing for himself.

Ease in dressing is measured by the amount and kind of assistance necessary to put the garment on and to take it off.

Fit is determined by the comfort (the lack of discomfort and constraint) and the amount of fabric allowance that creates a neat, attractive appearance.

Durability is the ability to last, to endure strain and abrasion.

Fasteners are the apparatus or materials used to close an opening in a garment.

CHAPTER TWO

REVIEW OF LITERATURE

In an effort to explore the literature for information related to clothing and dressing problems of the cerebral palsied child, the following four areas of concern were defined for the literature review. Facts about cerebral palsy were included to aid in the understanding of the disability and were used in the development of the instrument. Studies related to the rehabilitation of the handicapped and the role of clothing in the rehabilitation process were investigated. The chapter is concluded with a review of literature concerning clothing for the handicapped.

Cerebral Palsy

Rusk (1971) estimates that in the United States alone there are 500,000 victims of cerebral palsy. Cerebral palsy can be caused by anything that interferes with brain function and development in prenatal and early postnatal life (Downey and Low, 1974). Although actual causes are numerous, there appears to be a definite relationship between prematurity, with the subsequent low birth weight, and cerebral palsy. Unfortunately, cerebral palsy is on the rise. Increasingly

sophisticated medical equipment enable premature infants to survive who are brain damaged. Downey and Low (1974) hypothesized that progress toward reducing the number of cases of low birth weight will reduce the incidence of brain disabilities and, therefore, of cerebral palsy.

Because of the variety of causes, cerebral palsy can assume many characteristics to varying degrees. Some major groupings as reported by Rusk (1971, p. 477) from the American Academy for Cerebral Palsy, are classified as follows:

Neuromotor classification:

1. Spastic. This type is characterized by exaggeration of the stretch reflex and increased deep tendon reflexes in the affected parts.
2. Athetotic. The chief characteristics of this type are the slow, wormlike, involuntary, uncontrollable, unpredictable, and purposeless motions at rest....
3. Rigidity. When the part is moved, there is a continuous resistance in agonist and antagonist muscles,... The principal clinical finding is the hypertonicity of the muscles, which in some patients is so great that no motion is present. The tendon reflexes are normal.
4. Ataxic. The principal sign noted in the ataxic patient is disturbance of balance and equilibrium. The ambulation pattern has been described as a reeling, drunken-type gait.
5. Tremor. The chief characteristic of this type are the involuntary, uncontrollable motions that are reciprocal and regular in rhythm. This type is very common.
6. Mixed. Not all children with cerebral palsy can be diagnosed as true spastics, athetotics, or ataxics. About 1% of the total may be mixed cases in which there is more than one type of the above-described characteristics.

Topographic distribution of neuromotor involvement:

1. Paraplegia--involvement of the lower extremities. The patients with paraplegia are practically always of the spastic type.

2. Hemiplegia--involvement of an upper and lower extremity on the same side of the body. Persons with hemiplegia are almost always spastic, but occasionally an athetotic hemiplegic patient may be seen.
3. Triplegia--involvement of three extremities, usually both lower extremities and one arm. The disability is usually of the spastic type.
4. Quadriplegia or tetraplegia--involvement of all four extremities. The term diplegia is sometimes used to indicate that the lower extremities are more involved than the upper extremities. Almost all patients with athetosis have all four extremities involved.

A useful criteria for classification, more understandable to the layman, is based on severity of the disease and on the ability to perform normal daily functions:

1. Mild. The patient needs no treatment, since he has no speech problems, is able to care for his daily needs, and ambulates without the aid of any appliances.
2. Moderate. The patient needs treatment, since he is inadequate in self-care, ambulation, and/or speech. Braces and self-help appliances are needed.
3. Severe. The patient needs treatment, but the degree of involvement is so severe that the prognosis for self-care, ambulation, and speech is poor (Rusk, 1971, p. 478).

Cerebral palsy is not curable, but certain conditions can be improved through medication, surgery, and/or therapy. Children who suffer from cerebral palsy may also experience mental retardation, speech, hearing, and vision problems. In addition, seizures may accompany brain dysfunction. Downey and Low (1974) stated that statistics as to the prevalence of associated conditions are not available. Individuals with mild cases may not attend cerebral palsy clinics or receive any special treatment. Also, classifications are so varied it would be extremely difficult

to collect meaningful data. One such condition, minimal brain damage syndrome, requires special education to effectively handle the short attention span, hyperactivity, and specific learning disabilities.

Individuals and groups are studying ways to help cerebral palsied children lead as normal a life as possible. Nancie R. Finnie, author of Handling the Young Cerebral Palsied Child at Home (1974), compiled a practical, illustrated guide for parents in which she compared the normal child with a cerebral palsied child in all aspects of child development. In her chapter on dressing, Finnie reminds the parent that a normal child does not become skilled at dressing until five years of age or later. The skills and movement necessary for dressing and undressing are actually very complex. When control and coordination are lacking, the difficulties of dressing are compounded. The child must first understand how he will be dressed before he can attempt the task himself. With practice, the child can be expected to assume more difficult garments and fasteners.

Rehabilitation

According to Rusk (1971, p. 487) professionals in many fields perceive the goals of rehabilitation of the cerebral palsied child as:

1. Continuous parental education program with emphasis on realistic parental goals.
2. Prevention of deformity.
3. Motivation of the child.

These factors reflect the concern with training the cerebral

palsied child in the functions of daily living (Schwab, 1968). Developing independence, or at least a degree of independence, is vital to acquiring self-confidence and initiative. Home economists concerned with the handicapped can play an important part in this rehabilitation process (Trotter, 1969).

Clothing as Rehabilitation

Clothing communicates many things: one's attitudes, interests, values, occupation, socio-economic status, personality and mood (Ryan, 1966 and Rosencranz, 1965). It has been long realized that clothing is a great influence in one's life and plays a part in one's psychological well-being. Grace Morton, in 1926 wrote that:

Clothes help to make us self-confident, self-respecting, jolly, free, or they make us self-conscious, shy, sensitive, restrained. They determine how much we go into society, the places we go to, the exercise we take. They help us to get jobs and to hold them, to miss them and to lose them (Ryan, p. 125).

Telma Farrugia (1951) discussed from personal experience the difficulty in accepting the handicap and, likewise, being accepted within society and the community. The emotional conflicts and psychological adjustments are tremendous, and cerebral palsied children need all the encouragement and patience possible. Spock and Lerrigo (1965) agree that even simple tasks may be a painful experience. The child can easily become frustrated and discouraged. Several things can be done to increase the child's confidence and satisfaction. Helping the handicapped child dress comfortably and attractively is one such way to increase

his self-esteem (May, Waggoner, Hotte, 1974).

Mildred Shriner produced a pamphlet, "Growing Up: Cerebral Palsied Children Learn to Help Themselves" through the National Society for Crippled Children and Adults, Inc. in 1961. Based on her teaching experience, workshop presentations, research and study about the cerebral palsied, the booklet includes information on realistic goals for self-help dressing and grooming by the child. The cerebral palsied child, unless severely involved, will experience the normal sequence of motor development but at a slower pace than other children. Therefore, learning to coordinate the hand and eye movements essential for dressing may require repeated practice to integrate even the simplest movements. Shriner believes that the greatest problem for cerebral palsied children and adults is self-consciousness about their physical appearance. The satisfaction felt when encouraged and aided in self-care can inspire the handicapped to reach their fullest potential.

In 1963, Eleanor Boettke surveyed parents through the Connecticut Society for Crippled Children and Adults. Eighty-four per cent of those questioned responded that their children needed assistance in dressing, ranging from complete to occasional help. Both physical and psychological factors affected dressing problems. Lack of time, frustration, and the desire to help prompted parents to assume the task of dressing. Ninety-one per cent of the respondents used one or more assistive devices such as leg

braces, crutches, wheelchairs, lifts on shoes, glasses, and body braces. Fifty per cent agreed that these devices caused excessive abrasion to areas of clothing. Only 41 per cent of these parents reinforced the areas of wear on the garment. Ready-to-wear garments did not provide enough extra room, made dressing difficult, and did not disguise the disability. Special clothing, primarily diapers, were used by 24 per cent. Only 15 per cent of the respondents made garments for their children. Boettke concluded that although self-dressing may be time-consuming, it is necessary--if at all possible. Some schools required dressing skills for admittance. The accomplishment of independent dressing will improve the child's self-image especially if their clothing resembles that of the other children. Boettke emphasized that one can overcome the physical limitations of clothing if it is made for ease in dressing, and if the child is given the guidance, the time to try, the encouragement and the understanding of parents.

Clothing Designs for the Handicapped

Naomi Reich (1976) and May, Waggoner and Hotte (1974) provided some basic clothing suggestions for handicapped children. Any school-aged child will want to dress like and look like his classmates. Some clothing designs will hide body irregularities or braces and can be selected to make the child look his best. Clothing that is comfortable, that fits over and around assistive devices easily, and that can

be put on or removed with a minimum of effort is desirable. Location of fasteners and types of fasteners selected for clothing depends on the coordination, the strength, and range of motion of each child. May, Waggoner and Hotte reminded parents to be aware of safety features in clothing. Fabrics with loose weaves or looped surfaces, long skirts, full, loose sleeves, and dangling accessories should be avoided. Fabrics and finishes that contribute to wearability, launderability, and durability should be selected. Double stitching and reinforcement of areas with extra stress will increase the life of each garment.

The Sister Kenny Institute of Minneapolis, Minnesota, published Clothing Fashions for the Handicapped, Fashion Adaptations for Adults and Children during 1977 in conjunction with their fashion show for the handicapped. The author, Miriam Bowar, explained that the sources of inspiration for their adaptations to clothing were physically handicapped individuals with limited range of motion, orthopedic appliances, or physical deformities, as well as individuals confined to wheelchairs, incontinent, or unable to care for themselves. Clothing suggestions are given for various disabilities and the problems associated with a disability. Illustrations were used to explain the alteration or fashion suggested. Five ideas were included for the cerebral palsied child: tubular knits which require no fasteners, reinforcement of all stitching, fabrics that stretch, elastic waistbands, and zippered sleeves on coats and jackets for ease in dressing.

Spock and Lerrigo (1965) suggest knitted fabrics, which are expandable, easy to launder, and provide more comfort in clothing for the handicapped individual. The authors also encouraged the use of simple aids for self-dressing available on the retail market.

Newton (1973) presented illustrations of several garments designed for the handicapped adult. They were made to simplify dressing while being attractive. She pointed out the importance of clothing to express one's creativity and the pleasure derived in looking one's best. She concluded by challenging the home economist in clothing and textiles to become actively involved in the rehabilitation process.

Warden and Dedman (1975) worked with students wearing a Milwaukee Brace. A questionnaire was used to gather information about clothing problems. It was found that no ready-to-wear garment or unaltered pattern would accommodate the brace. Therefore, six subjects were selected and interviewed to determine clothing preferences. Garments were constructed and altered for each. After wearing the specially constructed garment, each subject responded positively to his new garment and expressed a more positive self-concept when dressed comfortably. Warden and Dedman concluded that more adaptations are necessary.

In 1963, Elizabeth Wagner, Ralph H. Kunstadter and Jayne Shover reported on a research study done by Bare, Boettke and Waggoner for the National Society for Crippled

Children and Adults. Ninety-three questionnaires provided information about the amount of help needed to perform specific tasks of personal care, the number of children needing assistance with specific garments, the types of openings and fasteners used, and the amount of help needed with each type of fastener. Garments available for use by handicapped persons on the retail market were also examined. The information was used to produce a booklet called Self-Help Clothing for Handicapped Children. It included chapters on child development, clothing needs and shopping tips, recommendations for clothings, and training to make dressing as easy as possible. Wagner, Kunstadter and Shover recommended the booklet for use by pedicatricians.

The clothing problems of the handicapped child are extensive and frustrating. Parents need help finding solutions. Friend, Zaccagnini and Sullivan (1973) chose to illustrate how home economists can offer suggestions and assistance to specific clothing problems. A survey was conducted to discover the kinds of problems found in ready-to-wear garments. Of the 69 parents questioned, 94 per cent had clothing problems and 43 per cent could offer no suggestions for improving the clothing to fit individual handicaps. The authors discovered that handicapped persons need clothing that fits a body which is not standard, that is strong, that allows movement, that has easy-to-use openings and fasteners, and that is attractive and in fashion. The authors explored in depth two special cases.

First, a variety of closures were mounted on boards and were used to determine the type of closure most easily handled by each subject. A specially designed garment, suited to the child's disability, was constructed for each subject and incorporated the desirable closure. Friend, Zaccagnini and Sullivan used these designs as samples of adapted clothing for the handicapped.

The recent study by White and Dallas (1977) illustrated the cooperative efforts of an occupational therapist and clothing designer in solving the dressing problems of a congenital quadruple amputee. They found little information in the literature about dressing a child with similar disabilities. They found it necessary to adapt commercial patterns to allow for the clothing worn over prostheses and to allow for limited range of motion and agility. Two garments were constructed and evaluated positively by the occupational therapist, the designer, the parent and the child. Roomy, open sleeves of a firmly woven fabric, easy-open Velcro fasteners, action shoulder pleats and a raised waistline were features which helped solve the child's clothing problems.

Hall and Vignos (1964) dealt with the problems of the male child with muscular dystrophy. The long leg braces necessary for ambulation required special clothing considerations. Trousers with extra wide legs, no cuffs, and zippers or Velcro on the inside of the legs promoted easy dressing. Two side zippers were helpful for toileting. An elastic

waist or a belt was a convenient handle for lifting or moving the child. Shirts should be purchased or made a size larger, with front buttons. Pockets that were lowered and slanted were more practical. A pleated back allowed ample fabric across the shoulders for crutch-walking. Jackets needed to be warm yet of a light-weight fabric. Raglan sleeves provided more room. It was suggested that Velcro be applied to both center front and center back of coats for ease in dressing.

Boettke and Zook (1956) developed attractive clothing for children with self-help features. Previous research and observations of children were used to formulate experimental dresses. The authors included self-help features such as long openings, simple styles, large fasteners, ample sleeves, indefinite waistlines, wide seam allowances; comfort features which allowed for freedom of movement; and appealing designs and fabrics. These factors were incorporated into six dresses. The reactions from 50 interested women (visiting the display of the dresses at Pennsylvania State University) and 18 university students in a children's clothing class were recorded. The reactions of the children at a nursery school were also tabulated. Over a period of 28 months, the garments were worn with minor adjustments in length and width. The children could dress themselves from the age of 2½ years. The conclusion drawn from the study supported the belief that the self-help designs and growth features were attractive, appealing, and functional.

Summary

The literature reviewed revealed a half million individuals in the United States who suffer from cerebral palsy due to an interruption in their normal brain functioning before, during, or soon after birth (Rusk, 1971). The cerebral palsied person may be classified mild, moderate, or severe depending on the ability to perform normal daily functions. The type of neuromotor involvement and the degree of extremity involvement was also used to classify the cerebral palsied individual (Rusk, 1971). Statistics were not available on the occurrence of other disabling conditions in addition to the cerebral palsy (Downey and Low, 1974).

The goals of rehabilitation of the cerebral palsied child included ongoing parent training and education, and motivation of the cerebral palsied child (Rusk, 1971). In the literature surveyed, the handicapped were concerned about their physical appearance and every effort should be made to encourage self-dressing (Shriner, 1961). Boettke (1963) emphasized the need to provide clothing that makes dressing easier while disguising the disability and improving one's appearance.

Additional studies about clothing for the handicapped included specific suggestions for ease in dressing, durability and safety. Experiments with fasteners determined which closures could be manipulated by children with specific handicaps (Friend, Zaccagnini and Sullivan, 1973).

Fabrics that were strong yet stretchable, easy to launder, and comfortable to wear were suggested by Spock and Lerrigo (1965). No ready-to-wear garment or unaltered pattern was able to accommodate a Milwaukee Brace (Warden and Dedman, 1975). In this study, clothing adaptations were necessary to fit each subject comfortably as was also necessary in the study conducted by White and Dallas in 1977.

The greatest amount of work concerning the cerebral palsied was supported by the National Society for Crippled Children and Adults. However, the publications were produced fifteen years ago and are dated in terms of fashions and fabrics. A recently available source for the concerned parent, the handicapped or elderly individual, and the professional involved in clothing for the handicapped was Clothing for the Handicapped, Fashion Adaptations for Adults and Children (Bowar, 1978). It was a comprehensive guide with some helpful suggestions and techniques for altering garments to solve the dressing problems encountered by the physically handicapped.

Areas of concern that were identified in previous studies included clothing features, fabric selection, fasteners and closures, considerations for purchasing garments for the handicapped, use of commercial patterns, and alterations made to the pattern or the garment. The information obtained in reviewing the literature was used in designing the questions for the instrument.

CHAPTER THREE

METHODOLOGY

Sample

In order to identify families with a cerebral palsied child, the Five Rivers Outreach Staff of the Champaign, Illinois chapter of United Cerebral Palsy was contacted. The agency serves cerebral palsied individuals of all ages in 14 counties and was able to identify 100 children between the ages of 2 and 12 with cerebral palsy in central Illinois.

Because the files and addresses are strictly confidential, the office staff addressed the questionnaires to the parents of the cerebral palsied children. Reminder postcards, also addressed by the staff, were mailed one week after the questionnaire and all responses were utilized in the analysis of data.

The parents to whom questionnaires were mailed had been asked to complete questionnaires on previous occasions by the United Cerebral Palsy of Five Rivers. The writer found that some parents do not acknowledge the cerebral palsy or that the cerebral palsy may not be the only disability of the child. These factors may have influenced the number of responses. Although the return envelope was self-addressed

and stamped, an increase in postage rates may have discouraged completion of the questionnaire and its return.

Questionnaire

In order to determine the effects of cerebral palsy on the clothing and dressing problems of a child, a questionnaire was designed by the writer to meet the following objectives:

Determine the effects of cerebral palsy on the fit of clothing.

Recognize the dressing/undressing problems of the cerebral palsied child.

Identify the desirable features in clothing for the cerebral palsied child.

Determine the preferred fasteners in clothing of the cerebral palsied child.

Identify the fabrics considered most durable and functional for the cerebral palsied child.

Determine the use of commercial patterns for clothing of the cerebral palsied child.

Determine the alterations made to ready-to-wear clothing for the cerebral palsied child.

Explore the need for assistance in solving clothing problems of the cerebral palsied child.

The questionnaire was initially evaluated by several Eastern Illinois University Graduate Students and Eastern Illinois University Home Economics Clothing and Textiles Faculty. A revised copy was distributed to two professionals concerned with the cerebral palsied individual and a parent with cerebral palsied children. The revised questionnaire includes suggestions from these individuals, members of the graduate committee of the writer, and the staff of the United

Cerebral Palsy of Five Rivers.

Procedure

As questionnaires were returned, the writer hand tabulated the responses. A month after the initial mailing, the analysis began with frequency counts of responses in order to meet the objectives of the questionnaire.

Several parents left one or more questions unanswered and are recorded as "unknown". They may not have understood the question, did not feel that it applied, or perhaps were offended by the question or its implication. Some questions required comments and are included in Chapter Four.

CHAPTER FOUR

FINDINGS

A questionnaire (see Appendix B) was developed by the writer and mailed by the United Cerebral Palsy of Five Rivers in Champaign, Illinois to 100 parents of cerebral palsied children. The children surveyed were between the ages of 2 and 12. The 52 questionnaires returned were utilized in the analysis.

The report of the findings was organized according to the objectives of the study. Prior to the discussion of the findings, a description of the sample and description of the handicap are given. Sections follow concerning the effects of cerebral palsy on the fit of clothing, the dressing and undressing problems of the cerebral palsied child, desirable features, preferred fasteners and fabrics for the cerebral palsied child, use of commercial patterns for the clothing of the cerebral palsied child, alterations on ready-to-wear clothing of the cerebral palsied child, and assistance in solving the clothing problems of the cerebral palsied child.

Description of the Sample

Fifty-two questionnaires were returned with 4 weeks of the initial mailing. Four of these were not completed

because the child was not considered to be cerebral palsied or the condition was extremely mild and caused no dressing of clothing difficulty. The lack of responses was indicated as "unknown" in the report of the findings.

The questionnaires returned represented 28 female and 18 male cerebral palsied children between the ages of 2 and 12. The remaining 6 children were of unknown age and sex. The greatest number of responses (8) were from parents whose child was 7. The least number of responses (1) was for a child of 11 years. These figures were used in table 1 to illustrate the frequency of responses according to age and sex.

TABLE 1
RESPONSES ACCORDING TO AGE AND SEX

Age of Child	Number		Per Cent	
	Male	Female	Male	Female
2	1	3	1.9	5.8
3	2	1	3.8	1.9
4	3	4	5.8	7.7
5	3	3	5.8	5.8
6	3	0	5.8	0
7	4	4	7.7	7.7
8	1	4	1.9	7.7
9	0	2	0	3.8
10	1	3	1.9	5.8
11	0	1	0	1.9
12	0	3	0	5.8
*Totals	18	28	34.6	53.9

*An additional six questionnaires (11.5 per cent) were returned for which there was no age or sex given.

The family size of the cerebral palsied child varied from 1 to 11 children. Of the 43 parents who responded to the question about family size, 19 families had 2 children, 8 families had 4 children, 4 families had 3 children, 3 families had 5 children, 2 families had 6 children, and 2 families had 7 and 11 children each. In 5 of the families, the cerebral palsied child was an only child.

The respondents were asked to describe their occupations. The responses have been categorized in table 2 according to Anne Roe's Classification of Occupations as found in The Psychology of Occupations (1956, p. 149-150). Half of the mothers were fulltime homemakers. Of the remainder, 9 mothers were skilled professionals, such as teachers or nurses. Five of the mothers held jobs that required training. One mother operated a business, and the remaining 5 held jobs requiring little or no skills.

The largest number (13) of the fathers were self-employed and included several farm owners. Nine fathers held jobs of responsibility requiring training in a professional field. Eleven fathers were employed in skilled positions, 9 fathers were semi-skilled, and 3 fathers worked at jobs requiring no special training or education.

Six questionnaires did not indicate the mother's occupation while 7 questionnaires failed to specify the father's occupation. The omission of one or both parent's

occupation might suggest a single-parent household.

TABLE 2
PARENTS' OCCUPATIONS

Occupation	Number		Per Cent	
	Father	Mother	Father	Mother
Independent Professional and Managerial	1	0	2.0	0
Professional and Managerial	8	9	15.4	17.3
Semiprofessional and Small Business	13	1	25.0	2.0
Skilled	11	5	21.0	9.6
Semi-Skilled	9	4	17.3	7.6
Unskilled	3	1	5.8	2.0
Homemakers (full-time)	0	26	0	50.0
Unknown	7	6	13.5	11.5
Totals	52	52	100.0	100.0

Description of the Handicap

In order to understand the handicap, 4 questions were asked to determine the type and degree of involvement, the use of braces or assistive devices, body malformation of the child, and additional handicaps or limitations.

When asked to specify the type of involvement of cerebral palsy, some respondents circled more than one

response. As illustrated in table 3, spasticity was the response selected by 29 respondents.

Some parents (11) were unsure of the child's type of cerebral palsy and preferred to explain the handicap. Their comments to the question, included below, are as they appeared in the questionnaire.

Tension athetosis and spasticity

Lag in gross and fine motor development; no severe muscle involvement.

Floppy muscle tone

Severely retarded; no physical handicaps

Downs syndrome

Cannot sit up or crawl; can roll

Although he is more relaxed and really doing well.

Cannot sit up or help herself in any way; just like an infant.

Right-sided c.p.

Speech defect, apraxia

Slightly affected on whole right side, mild spasticity, some balance problems.

Of the 35 who responded to the second question on the questionnaire concerning the extent of involvement of the extremities, the largest number of children (18) were quadriplegic (see table 4).

TABLE 3
TYPE OF INVOLVEMENT

Type	Male	Female	Unknown	*Total
Spastic	11	16	2	29
Athetotic	0	5	0	5
Ataxic	5	3	0	8
Rigidity	2	1	0	3
Other	4	7	0	11
Unknown	0	0	4	4
* totals represent all responses selected by the parent				

TABLE 4
EXTENT OF INVOLVEMENT

Extent of Cerebral Palsy	Male	Female	Unknown	*Total
Paraplegic	2	3	0	5
Hemiplegic	1	7	1	9
Diplegic	1	1	0	2
Triplegic	1	0	0	1
Quadriplegic	7	10	1	18
No response	6	7	4	17
* totals represent the number who responded to the question				

Question 3 of the questionnaire asked to "Indicate any brace or assistive device used by the child". Table 5 illustrates that 15 parents did not select a response. This suggests no need for braces or assistive devices for their child at the present time.

Additional devices, used by the child and listed by the parents included canes, neck brace, protective helmet, trunk splint, walker, twister brace, and corrective shoes. Some children used more than one brace or assistive device.

TABLE 5
USE OF BRACES OR ASSISTIVE DEVICES

Devices	Male	Female	Unknown	*Total
Wheelchair	4	6	1	11
Body Brace	0	0	0	0
Leg Braces and Crutches	0	1	0	1
Leg Braces Only	4	1	0	5
Other	8	18	1	27
No response	7	4	4	15
* totals represent all responses given by the parents				

Parents were asked to indicate any body malformation, limitation of movement, or additional handicap as shown in table 6. Twelve parents selected more than one response. Additional handicaps and comments made in response

to the same question are listed below, as they appeared on the questionnaire.

Damaged optic nerve, limited vision

Blind, severely retarded

Mental retardation (specified by 2 respondents)

Partially blind; no speech, just babbling

Club foot; congenital deformity middle finger each hand.

Twisted lower leg bones

Speech

Does not have good balance; she can't walk or stand by herself.

Renal rickets from chronic renal insufficiency

Weak muscles, floppy

Her neck is wobbly

Just slow in understanding

TABLE 6

LIMITATION TO MOVEMENT AND
ADDITIONAL HANDICAP

Malformation or Handicap	Male	Female	Unknown	*Total
Spinal Malformation	0	1	0	1
Spinal Curvature	1	5	1	7
Limitation of Movement at Joints	3	5	0	8
No Body Malformation	11	13	0	24
An Additional Handicap	2	2	0	4
Other	3	8	0	11
No Response	3	2	5	10

* totals represent all responses given by parents

TABLE 7

SPECIFIC LIMITATIONS IMPOSED BY CLOTHING

	Number
May not accommodate brace	4
Makes use of crutches difficult in some garments	0
Does not allow for body malformation or curvature	1
Restricts movement	7
Other	6
	<hr/>
*Total	18

* total represents the number of parents who responded to the question

Dressing/Undressing Problems
of the Cerebral Palsied Child

Question 6 on the questionnaire concerned dressing ability of the child. Table 8 illustrates that 46.1 per cent of the children must be dressed completely. Twenty-seven per cent needed some assistance in dressing while 19.2 per cent could dress themselves completely in less than 15 minutes.

TABLE 8
DRESSING ABILITY OF THE CHILD

	Male	Female	Unknown	Total	Per Cent
Can Dress Selves Completely	1	8	1	10	19.2
Need Some Assistance	6	8	0	14	27.0
Must Be Dressed Completely	12	11	1	24	46.1
Unknown	0	0	4	4	7.7
Totals	19	27	6	52	100.0

The respondents were asked to indicate the amount of assistance given in dressing the child in specific garments. All garments listed in table 9 required some kind of assistance by parents whose child was unable to dress himself. The child always required assistance by more parents with shoes, slippers, or boots and one-piece jumpsuits than any other garment listed. More than half the parents who responded to the question had to assist the child sometimes with socks, shirts or blouses, jackets or coats, and mittens or gloves.

TABLE 9

AMOUNT OF ASSISTANCE GIVEN IN DRESSING
THE CEREBRAL PALSID CHILD

Clothing Item	Always	Sometimes	Never
Underwear	3	6	6
Shirt or Blouse	3	10	0
Slacks	3	7	2
Skirt	1	3	4
Dress	2	4	3
Jacket or Coat	4	7	2
Mittens or Gloves	4	7	1
Shoes, Slippers or Boots	7	4	2
Socks	3	9	1
Pajamas or Robe	3	5	5
One-piece Jumpsuit	7	1	3

(figures represent the number of parents who responded to the question)

Over 30 per cent of the children were able to undress themselves as compared to the 19 per cent able to dress themselves completely (see table 10).

Those who undressed themselves could do so in less than 15 minutes with the exception of one child who required 15 to 30 minutes.

TABLE 10
UNDRESSING ABILITY OF THE CHILD

	Male	Female	Unknown	Total	Per Cent
Can Undress Selves Completely	3	12	1	16	30.8
Need Some Assistance	3	4	0	7	13.5
Must Be Undressed Completely	10	12	1	23	44.2
Unknown	2	0	4	6	11.5
Totals	18	28	6	52	100.0

Table 11 indicates the responses to the amount of assistance given in removing specific garments from the child. Jumpsuits, shirts and blouses, and shoes, slippers, or boots were the garments which most parents had to help the child remove. Garments that required the least amount of assistance were slacks and socks.

Of the 40 who responded to question 8 on the questionnaire, "Is any dressing aid provided for use by the child?", none provided any such device to make the job easier for the child.

TABLE 11
AMOUNT OF ASSISTANCE GIVEN IN UNDRESSING
THE CEREBRAL PALSIED CHILD

Clothing Item	Always	Sometimes	Never
Underwear	1	5	2
Shirt or Blouse	4	4	1
Slacks	2	2	4
Skirt	1	0	3
Dress	2	2	1
Jacket or Coat	1	4	3
Mittens or Gloves	2	3	3
Shoes, Slippers or Boots	3	3	2
Socks	2	2	4
Pajamas or Robe	2	4	1
One-piece Jumpsuit	5	1	0
(figures represent the number of parents who responded to the question)			

Desirable Features in Clothing for the
Cerebral Palsied Child

Parents selected 1, 2, 3, or more responses to question 9 on the questionnaire, "What clothing features are more desirable in clothing for the child?". The respondents considered the size and location of openings, reinforced areas, and double stitching as the features which increase

the ease in dressing and durability of the garment (see table 12).

TABLE 12

DESIRABLE CLOTHING FEATURES FOR
EASE IN DRESSING AND DURABILITY

Clothing Feature	*Number
Type of Fastener	17
Size and Location of Opening	28
Full, Loose Cut	21
Reinforced Areas and Double Stitching	27
Raglan Sleeves	6
One-piece Garment	5
* figures represent all responses to the question	

Question 10 of the questionnaire asked if any other feature in clothing was desirable for the cerebral palsied child. Nearly half the respondents (25) omitted the question. The 12 who responded affirmatively suggested the features given in table 13.

TABLE 13
OTHER DESIRED FEATURES

Suggested Features	*Number
Elastic Waist	2
Snap Crotch	2
Stretch Fabric	3
Velcro Fasteners	1
Pull-on Clothing	3
One-piece Garment	2

* figures represent the 12 respondent who suggested other features

Question 11 of the questionnaire, concerned with shopping for clothing of the cerebral palsied child, determined that most respondents considered construction, cost, fabric and garment features as the most important factors (see table 14). The appeal to the child, fashion, and the color of the garment were considered less important factors.

TABLE 14

FACTORS CONSIDERED WHEN SHOPPING
FOR CLOTHING

Factors	*Number
Cost	22
Fabric	21
Features	21
Quality of Construction	24
Fashion	13
Color	11
Appeal to the Child	16

* figures represent all responses to the question

It was found that of the children surveyed, 22 (42.3 per cent) were not toilet-trained. These children ranged in age from 2 to 9 years. The need for diapers and plastic pants caused difficulty in selecting clothing for 6 children. Their parents avoided one-piece garments and any clothing which might make changing difficult. Table 15 illustrates the desirable garment features for the child who was not toilet-trained. Three respondents specified an elastic waistband, snap crotch, and slack (rather than one-piece garments) as suggestions for frequent changes.

TABLE 15

DESIRABLE GARMENT FEATURES
FOR FREQUENT CHANGES

Desirable Features	*Number
Location of Opening	11
Type of Fastener	5
Type of Fabric	3
Full, Loose Cut	10
Other	3

* figures represent all responses to the question

It was found that garment durability was affected by the handicap, brace or assistive device used by 9 of the children surveyed. The handicap caused extra wear in some areas and caused seams to break occasionally. One parent responded that, "due to drooling, more washings and bleachings are required, causing a shorter life to shirts, etc."

Preferred Fasteners in Clothing for the
Cerebral Palsied Child

The respondents were asked to select the 3 fasteners they prefer on clothing for the cerebral palsied child. Elastic closures were preferred by 75 per cent of the parents who responded to the question. Button, hooks, and ties were least preferred (see table 16).

TABLE 16
PREFERRED FASTENERS

Fasteners	*Number	Per Cent
Elastic	27	75
Zipper	24	66
Snaps	18	50
Velcro	12	33
Buttons	10	28
Hooks	6	16
Ties	2	5

* figures represent all responses to the question

The location of fasteners made a difference to 20 of the 33 who responded to the question. All but 3 preferred a front location for fasteners.

The children who dressed themselves could best manipulate clothing fastened with elastic or zippers, as shown in table 17.

Fasteners located in the front of a garments were most easily manipulated by the cerebral palsied child who was able to dress himself.

TABLE 17
 TYPES OF FASTENERS MANIPULATED
 BY THE CHILD

Fasteners	*Number	Per Cent
Elastic	15	88
Zipper	13	76
Velcro	11	65
Buttons	8	47
Snaps	8	47
Hooks	4	24
Ties	4	24

* figures represent all responses to the question

Preferred Fabrics in Clothing for the
Cerebral Palsied Child

The fabrics considered most durable for the cerebral palsied children surveyed were a cotton or polyester knit and denim. The fabrics considered most functional (easier to handle, more comfortable to wear, easy-care) were ranked in the same order as those fabrics considered most durable. However, as shown in table 18, the percentage of responses for each fabric was different.

TABLE 18

FABRICS CONSIDERED MOST DURABLE AND FUNCTIONAL

Fabrics	Most Durable		Most Functional	
	*Number	Per Cent	Number	Per Cent
Cotton or Polyester Knit	41	85	43	90
Denim	38	79	34	71
Broadcloth	21	44	24	50
Corduroy	21	44	17	35
Gingham	5	10	5	10
Seersucker	2	4	2	4
Other	1	2	1	2

* figures represent all responses to the question

Use of Commercial Patterns for Clothing
of the Cerebral Palsied Child

It was found that 21 of the cerebral palsied children surveyed wore clothing made by someone. Of those who wore homesewn clothing, commercial patterns could be used for 18 of the children. Seven of the respondents found it necessary to alter the commercial pattern to fit the child.

Alterations Made to Ready-to-Wear Clothing
for the Cerebral Palsied Child

A variety of alterations needed to be made to purchased clothing according to this survey. Adding elastic, reinforcing areas of wear, and lengthening by addition of

material were some methods used by parents in altering clothing (see table 19).

TABLE 19
TYPES OF ALTERATIONS

Alterations	*Number
Reinforce Areas of Wear	3
Change Fasteners	2
Enlarge or Change Openings	2
Add Elastic	5
Enlarge by Additional Material	0
Lengthen by Additional Material	3
Other	9

* figures represent all responses to the question

Comments from parents included the need to shorten clothing due to little long bone growth and the need to take in seams and darts to fit a slim child.

Assistance in Solving Clothing Problems
of the Cerebral Palsied Child

The final questions of the questionnaire concerned help parents have received for their child's clothing problems. Four parents indicated they had received assistance from therapists, teachers, and from publications.

When asked if they needed information or assistance with the child's clothing problems, 4 other parents indicated

an interest in receiving help. Comments at the end of the questionnaire implied that 4 parents might need assistance as the child gets older, when braces may be necessary, and the child is more difficult to handle. Two parents requested any information or suggestions that result from the survey.

CHAPTER FIVE

CONCLUSIONS

The study was designed to explore the clothing and dressing problems of the cerebral palsied child. Specific concerns addressed by the instrument included the fit of clothing, the dressing and undressing ability of the child, and features, fasteners, and fabrics for clothing of the cerebral palsied child. Parents indicated whether commercial patterns were used and alterations were made to clothing for their child. Finally, the need for assistance in solving clothing problems of the cerebral palsied child was explored. A summary of the findings is followed by conclusions and implications for the future.

Summary

Of the 52 respondents, over half had a cerebral palsied child aged 7 or younger. This might imply that clothing and dressing problems are more prevalent and of greater concern to parents with young cerebral palsied children. Many cerebral palsied children will eventually develop the ability to perform the basic skills and tasks of daily living for themselves (Finnie, 1974). Meanwhile, parents are called upon to provide more instruction and assistance for a longer period of time. Perhaps the parents

of the younger cerebral palsied child recognized their dressing difficulties and felt the questionnaire was most relevant to their situation.

It is not known how many questionnaires were sent to male or female cerebral palsied children due to confidentiality of the files. Those questionnaires returned represented more female than male children.

The families surveyed had an average of 3 children each, with the largest number of families having 2 children. In less than half the families, the mother was employed outside the home. Of the working mothers, none had a cerebral palsied child under the age of 4. When the mother was a homemaker, it was possible the children were preschool age or perhaps the needs of the cerebral palsied child required the mother's full-time attention. The largest number of employed mothers were professionals trained for a particular career. About one-fourth of the fathers were farmers which was representative of the locality surveyed. Almost half of the fathers held positions requiring training and skills. Thirteen respondents omitted one or both parents' occupations. This might suggest a single-parent household, a reluctance to answer the question, or unemployment of one or both parents.

It was found that the handicap limits the clothing choices of 8 of the 18 who responded to the question. Half of these 8 were female children. It is unlikely that one's sex would affect the clothing worn for the age group consi-

dered, with the exception of dresses and skirts. Slacks or pants are acceptable for both sexes and few female cerebral palsied children under the age of 12 would have the additional difficulties of getting into and out of bras, girdles, or pantyhose.

The responses to the questions concerning the type and extent of cerebral palsy support the fact that cerebral palsy can assume a variety of conditions and degrees of involvement (Rusk, 1971). Several respondents indicated multiple handicaps and mental retardation. It was evident that half the children surveyed had little control over muscles and were unable to coordinate the movements necessary to perform dressing tasks. These children had to be dressed and undressed by other individuals. It would have been helpful to determine if the severely handicapped child, dependent on others for dressing, generally wore all types of clothing or was most often dressed in pajamas or sleepwear.

Only 6 of the children surveyed wore a leg brace at all times. The wheelchair was used by 11 of the more severely involved. Twenty-seven individuals responded with other types of assistive devices, from canes and crutches to twisters and walkers. Half the children had no body malformation.

The handicap limited the clothing worn by restricting movement for 7 of the children and not accommodating the braces of 4. One parent identified the clothing problems

of her child who could not sit up. Clothing could not have buttons or other features that were uncomfortable to lie on. It would be interesting to know if other parents considered comfort and abrasion when making clothing selections.

Nearly half (24) of the cerebral palsied children surveyed had to be dressed completely while 23 had to be undressed completely. Some are young and will soon be able to begin to learn dressing skills. However, the older cerebral palsied child who had not learned to dress at all may not have received the encouragement or training necessary from parents and teachers.

It was found that children who needed some assistance in dressing and undressing had difficulty getting into and out of most garments. Shoes, jumpsuits and blouses or shirts were always identified as problems for more children than any other article of clothing listed. Clothing that required a degree of dexterity caused more dressing difficulties.

Parents surveyed considered the size and location of the opening, reinforcement of areas, and double stitching as desirable clothing features. Garments with a full, loose cut and the fastener or method of closure were also important considerations in apparel for the handicapped child. Others suggested snap crotches in larger-size clothing and pull-on and pull-over garments. When shopping for clothing, parents considered construction and cost first. The fabric

used and garment features rated higher than appeal to the child, fashion, or color. It implies that parents are not aware of or as concerned about the impact clothing has on one's psychological well-being and relationships with peers as expressed by Spock and Lerrigo (1965).

Nearly 50 per cent of the children studied were not toilet trained. Again, the location of the opening and a full, loose cut made changing easier and accommodated the diapers and plastic pants. As the child grows older and larger, the incontinency will cause more difficulties in dressing and hygiene. The parent may desire consultation with a clothing specialist at that time.

Garment durability was affected by the handicap, brace or assistive device used by 9 of the children. Suggestions might be made to parents to increase the life of garments through reinforcement, alteration in clothing, or changes in garment styles selected to be worn by the child.

Clothing secured by elastic closures was preferred by 75 per cent of the parents. Zippers were also favored fasteners. Snaps were important to parents whose child was not toilet trained. Children who dressed themselves could best manipulate elastic, zipper and Velcro closures. A front location was easiest for the child to reach.

Denim and knitted fabrics were the most durable and most functional for the cerebral palsied children surveyed. Broadcloth and corduroy were considered most durable

by 44 per cent of the respondents and most functional by 50 per cent and 35 per cent respectively.

Nearly half of the children (21) surveyed wore homesewn clothing, and commercial patterns could be used for 85 per cent of those wearing the homesewn clothing. Thirty-seven per cent of the children needed to have alterations made on the patterns used. Only 27 per cent of the children needed alterations made on purchased clothing before it could be worn. A variety of alterations were made including shortening or lengthening, taking in seams and darts, enlarging or changing openings, reinforcement, changing fasteners, and adding elastic.

Four parents have received help with clothing and dressing problems from therapists, teachers, and written material. Four other parents desired help. Comments from several parents revealed a desire to learn more about clothing and dressing solutions for the cerebral palsied child. Four parents implied they may need help sometime in the future. The remainder of the parents may have assumed that the child will eventually learn to dress himself and therefore do not see the need for more information or assistance to speed the learning process. Others may not want to admit to a problem, do not recognize a clothing problem, or were too proud to request help.

Conclusions and Implications

The results of this survey suggested that cerebral palsy did affect the fit of clothing if the child suffered

a body malformation or was restricted with braces, wheelchair, or other device as a result of the handicap. The dressing and undressing problems varied from none to complete lack of ability to dress oneself. Garments which required more manipulation or fine coordination were difficult or impossible for the cerebral palsied child to put on or take off independently. No parents provided any dressing aid to help the child dress himself. It appears that parents are uninformed about devices which substitute hand manipulation of zippers and buttons with mechanical ones.

The size and location of the opening was most important in clothing of the cerebral palsied child according to the parents surveyed. They preferred elastic and zipper closures and pull-on or pull-over garments. Cotton or polyester knitted fabrics were most practical and functional. Clothing and dressing workshops made available to parents of handicapped children could explore the problems parents might encounter in dressing and could provide information about easy dressing and clothing adaptations.

Commercial patterns were used for homesewn clothing of the cerebral palsied child with simple alterations. Ready-to-wear clothing was altered at times with changes to the length or width of a garment. Patterns and garments designed for the handicapped could be made available on the retail market. Also an awareness of the sources from which specialized clothing or patterns may be ordered would

aid the parent with a severely handicapped child.

The results pointed to a need for assistance to be made available to parents who need help. Ready access to consultation, workshops, classes and printed materials about clothing for the handicapped is necessary so that the parent who identifies problems can receive assistance easily and without embarrassment.

The diverse nature of cerebral palsy and the prevalence of multiple handicaps in cerebral palsied children demand individual attention and consideration. Occupational therapists are trained and prepared to teach dressing techniques. However, the clothing problems can best be solved by a clothing specialist. Home economists serving as consultants to social agencies, extension services, rehabilitation clinics, or hospitals could provide the expertise necessary to help parents with clothing questions.

Literature that is prepared in an interesting, easy-to-read, up-to-date form could be made available to parents with handicapped children. The information included in any publication about clothing should stress the need of the child to be dressed in clean, neat, well-fitting garments that enhance one's appearance and disguises the handicap.

Above all, parents need encouragement and support in seeking assistance and in helping their cerebral palsied child acquire the necessary skills for independent living. Rehabilitation of the child is dependent on continual

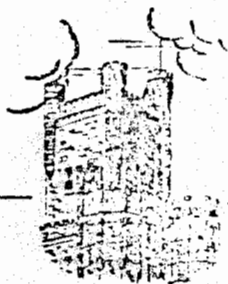
parent education programs which aid in understanding and acceptance of the child's capabilities.

In the future, as fabrics, fasteners, and fashion change, research will need to continue to explore the clothing and dressing problems of the handicapped. Improved materials and technology will aid in the solution of these problems while other professionals will be required to disseminate the information to parents and to the handicapped. Hopefully, there will be a means to help individuals with disabilities to dress themselves easily, comfortably, practically, fashionably, and quickly.

APPENDIXES

- A. Cover Letter
- B. Questionnaire
- C. Reminder Postcard

Appendix A--Cover Letter
EASTERN ILLINOIS UNIVERSITY



School of Home Economics
CHARLESTON, ILLINOIS
61920

STUDY OF CLOTHING PROBLEMS OF THE CEREBRAL PALSIED CHILD

May, 1978

Dear Parent,

Because of your special situation, I am asking your help.

Little information is available concerning the dressing and clothing problems of the cerebral palsied child. Because I believe clothing plays a significant part in the rehabilitation of the handicapped, the attached questionnaire will be my means of gathering information about specific problems and considerations of parents.

United Cerebral Palsy of Five Rivers has consented to address the envelope and therefore all responses will be confidential and tabulated with responses from many other parents in the area. Your answers are important in determining the problems and in the future may be instrumental in the development of educational materials for parents.

Your prompt response will be appreciated. Please use the enclosed stamped envelope to return your questionnaire.

Thank you for your time and consideration.

Sincerely,

Marilynn W. Schumacher
Graduate Assistant
School of Home Economics
Eastern Illinois University
Charleston, Illinois 61920

Appendix B--Questionnaire
SURVEY OF CLOTHING AND DRESSING PROBLEMS
OF THE CEREBRAL PALSIED CHILD

Family Information

Age of the child: _____

Sex of the child: _____ Male
_____ Female

How large is the family? (total number of children) _____

Briefly describe the mother's occupation _____Briefly describe the father's occupation _____

DIRECTIONS: Please CIRCLE THE NUMBER that indicates your answer unless otherwise instructed.

Description of Handicap

1. Specify the type of involvement:
 1. Spastic: exaggerated reflexes, increased muscle tone, with constant tension
 2. Athetotic: involuntary, uncontrolled motions
 3. Ataxic: disturbed balance and equilibrium
 4. Rigidity: resistance to movement
 5. Other: please specify _____
2. Specify the extent of involvement:
 1. Paraplegic: involves both legs
 2. Hemiplegic: involves an arm and a leg on the same side of the body
 3. Diplegic: involves two limbs, any combination
 4. Triplegic: involves three limbs, usually both legs and one arm
 5. Quadriplegic: involves both legs and both arms
3. Indicate any brace or assistive device used by the child:
 1. Wheelchair
 2. Body brace
 3. Leg braces and crutches
 4. Leg braces only
 5. Other: please specify _____
4. Indicate if the child has:
 1. Spinal malformation
 2. Spinal curvature
 3. Limitation of movement at joints; if so specify which joints: _____
 4. No body malformation
 5. An additional handicap, such as blind, deaf, etc. Please specify: _____
 6. Other: please specify _____
5. Do the handicap or assistive device limit the kinds of clothing or styles of garments that can be worn by the child? 1. Yes 2. No

If yes, specify in what way:

 1. May not accomodate braces
 2. Makes use of crutches difficult in some garments
 3. Does not allow for body malformation or curvature
 4. Restricts movement
 5. Other: please specify how: _____

Dressing

6. Is the child able to completely dress him/her self? (This means clothing only, not grooming and personal care) 1. Yes 2. No

If yes, how long does it usually take to put on clothing?

1. Less than 15 minutes
2. From 15 to 30 minutes
3. From 30 minutes to one hour
4. More than one hour: please specify usual amount of time _____

If no, what kind of assistance is given?

1. Someone must dress the child completely
2. Someone must assist with some articles of clothing

(OMIT if child completely clothes him/her self)

If some assistance with clothing is given, which articles of clothing require help and how often? CIRCLE THE APPROPRIATE NUMBER.

<u>Clothing</u>	<u>Always</u>	<u>Sometimes</u>	<u>Never</u>
Underwear	1	2	3
Shirt or blouse	1	2	3
Slacks	1	2	3
Skirt	1	2	3
Dress	1	2	3
Jacket or coat	1	2	3
Mittens or gloves	1	2	3
Shoes, slippers or boots	1	2	3
Socks	1	2	3
Pajamas or robe	1	2	3
One-piece jumpsuit	1	2	3

7. Is the child able to completely undress him/her self? 1. Yes 2. No

If yes, how long does it usually take?

1. Less than 15 minutes
2. From 15 to 30 minutes
3. From 30 minutes to one hour
4. More than one hour: please specify usual amount of time _____

If no, what kind of assistance is given?

1. Someone must undress the child completely
2. Someone must assist with some articles of clothing

(OMIT if child completely undresses him/her self)

If some assistance in undressing is given, which articles of clothing require help and how often? CIRCLE THE APPROPRIATE NUMBER.

<u>Clothing</u>	<u>Always</u>	<u>Sometimes</u>	<u>Never</u>
Underwear	1	2	3
Shirt or blouse	1	2	3
Slacks	1	2	3
Skirt	1	2	3
Dress	1	2	3
Jacket or coat	1	2	3
Mittens or gloves	1	2	3
Shoes, slippers or boots	1	2	3
Socks	1	2	3
Pajamas or robe	1	2	3
One-piece jumpsuit	1	2	3

8. Is any dressing aid provided for use by the child? 1. Yes 2. No

If yes, which one or ones have been used? CIRCLE ALL THAT APPLY.

1. Trouser pulls
2. Sock or shoe aids
3. Button hook
4. Zipper pull
5. Dressing stick, for pulling on or pushing off clothes
6. Other: please specify _____

Clothing Features

9. What clothing features are more desirable in clothing for the child?
SELECT THREE FEATURES from this list that increase the ease in dressing and durability.

1. Reinforced areas and double stitching
2. Type of fasteners
3. Full, loose cut
4. Size and location of opening
5. Raglan sleeves
6. One-piece garment

10. Is there any other feature you consider desirable? 1. Yes 2. No

If yes, please specify _____

11. When shopping for clothing for your child, SELECT THE THREE FACTORS you consider most important:

1. Cost
2. Fabric
3. Features, such as fasteners, type of sleeve, style
4. Quality of construction
5. Fashion
6. Color
7. Appeal to the child

Toilet Trained

12. Is the child toilet trained? 1. Yes 2. No

(OMIT 13 and 14 if the child is toilet trained.)

13. If the child is not toilet trained, does the necessity of diapers, plastic pants, etc. cause difficulty in selecting clothing? 1. Yes 2. No

If yes, please specify how _____

14. Which garment feature aids you most with the frequent changes necessary?

1. Location of opening
2. Type of fastener
3. Type of fabric
4. Full, loose cut
5. Other: please specify _____

Durability

15. Does the extent of handicap, brace or assistive device used effect the garment durability? 1. Yes 2. No

If yes, specify in what way:

1. Extra wear in some areas
2. Seams break
3. Fastener breaks or is lost
4. Other: please specify _____

Fasteners

(OMIT 16 and 17 if the child completely dresses him/her self.)

16. If you dress or help to dress the child, which fastener or substitute for a fastener, do you prefer? SELECT THREE YOU PREFER.

1. Buttons
2. Hooks
3. Snaps or grippers
4. Zipper
5. Velcro (material of hooks and loops which interlock and grip securely until peeled apart)
6. Elastic
7. Ties

17. Does the location of the fasteners make a difference? 1. Yes 2. No

What location is most desirable for you?

1. Front
2. Back
3. Side

(OMIT 18 and 19 if someone must dress the child completely.)

18. If the child does some or all of his dressing, which kinds of fasteners is he/she able to manipulate? CIRCLE ALL THAT APPLY.

1. Buttons
2. Hooks
3. Snaps or grippers
4. Zipper
5. Velcro (material of hooks and loops which interlock and grip securely until peeled apart)
6. Elastic
7. Ties

19. Does the location of the fasteners make a difference? 1. Yes 2. No

What location is the most easily reached by the child?

1. Front
2. Back
3. Side

Fabric Selection

20. Which fabrics do you consider the most durable for your child? SELECT THREE.
1. Denim
 2. Corduroy
 3. Cotton or polyester knit
 4. Polyester/cotton shirting (broadcloth)
 5. Gingham (checked)
 6. Seersucker
 7. Other fabric: please specify _____
21. Which fabrics do you consider the most functional (easier to handle, more comfortable to wear, easy care) for your child? SELECT THREE.
1. Denim
 2. Corduroy
 3. Cotton or polyester knit
 4. Polyester/cotton shirting (broadcloth)
 5. Gingham (checked)
 6. Seersucker
 7. Other fabric: please specify _____

Use of Commercial Patterns

22. Does your child wear clothing made by you or another individual? 1. Yes 2. No
- If yes, are commercial patterns used? 1. Yes 2. No 3. Don't know
- If commercial patterns are used, is it necessary to make pattern adjustments? 1. Yes 2. No 3. Don't know

Alterations to Clothing

23. Is it necessary to alter or adjust purchased clothing before it can be worn?
1. Yes 2. No
- If yes, in what way or ways? Mark all that apply.
1. Reinforce areas of wear
 2. Change fasteners
 3. Enlarge or change openings
 4. Add elastic
 5. Enlarge by additional material
 6. Lengthen by additional material
 7. Other: please specify _____
24. Have you ever received any help for your child's clothing problems?
1. Yes 2. No
- If yes, please explain from whom and what kind of assistance.
- _____
25. Do you need information or assistance with your child's clothing problems?
1. Yes 2. No

Appendix C--Reminder Postcard

Dear Parent,

Have you returned your questionnaire on clothing research for the cerebral palsied child you received this month? If not, could you please complete and mail the questionnaire within the next five days? Your answers are critical to the completion of this study.

If you have already mailed your response, thank you for your cooperation.

Sincerely,
Marilynn W. Schumacher

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